AK

	Application No.	**Applicant(s)**
Notice of Allowability	10/608,722	DUNSMORE ET AL.
	Examiner	**Art Unit**
	DENNIS MYINT	2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to _11/19/2007_.

2. ☒ The allowed claim(s) is/are _58,59,63-74,76-78 and 80-88_.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

     * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

     (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

     (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

     Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

1.   Claims 58-59, 63-74, 76-78, and 80-88 are currently pending in this Office

Action.

2.   In amendment filed on November 19, 2007, claims 58, 80 were amended,

claims 60-62 and 89-100 were cancelled and claims 101-108 were newly added.

On February 14, 2008, Applicant's Representative agreed to Examiner's

proposed amendments, which amends claims 58 and 80 and cancelled claims

101-108. As such, Claims 58-59, 63-74, 76-78, and 80-88 are currently pending.

Claims 58 and 80 are independent claims.

Drawings

3.   Drawings filed on June 26, 2003, are accepted.

Specification

4.   Specification filed on June 26, 2003, is considered and accepted.

5.   An examiner's amendment to the record appears below. Should the

changes and/or additions be unacceptable to applicant, an amendment may be

filed as provided by 37 CFR 1.312. To ensure consideration of such an

amendment, it MUST be submitted no later than the payment of the issue fee.

6.   Authorization for this examiner's amendment was given in a telephone

interview with Mr. Vadim Vapnyar, Reg. No. 56,598, on February 14, 2008.

Please replace claims 58 and 80 with amended claims 58 and 80 and

cancel claims 101-108.

58.   (Currently amended) A method for replacing a first sub-hierarchy of

at least two sub-hierarchies of a hierarchical file system (HFS) with a second

sub-hierarchy of the at least two sub-hierarchies, the HFS having a single

parentless root directory and being accessible by at least one processor, wherein

the HFS provides a mapping between a disk sector and user data, further

wherein the HFS implementation is a New Technology File System (NTFS)

implementation, the HFS is provided with file records storing directory attribute

data corresponding with the first and second sub-hierarchies, the method

comprising the steps of:

providing for the first sub-hierarchy to include a first root directory located

in a first location of the HFS associated with the single parentless root directory

of the HFS through at least one internal pointer, wherein the first sub-hierarchy

includes a first plurality of files configured to branch from the first root directory

and at least one special system file which is exclusive to the parentless root

directory;

providing for the second sub-hierarchy to include a second root directory

located in a second location of the HFS, wherein the second sub-hierarchy

includes a second plurality of files configured to branch from the second root

directory and the second root directory is provided with at least one placeholder

file which corresponds to each of the special system files;

providing the first and second root directories with at least one file entry, each of which are provided with corresponding owning- directories, and the respective owning directories are provided with corresponding back-pointers; and

replacing the first sub-hierarchy with the second sub-hierarchy comprising the step of:

associating the second root directory and the single parentless root directory of the HFS through the at least one internal pointer, wherein the associating step further comprises the steps of:

configuring ef the first plurality of files to branch from the first root directory including once the first root directory is accessed through the second location;

exchanging owning directories corresponding to the file entries of the first root directory with owning directories corresponding to the file entries of the second root directory;

exchanging the owning directory back-pointers of the first root directory with corresponding owning directory back-pointers of the second root directory;

exchanging at least one directory pointer corresponding to the at least one special system file with at least one directory pointer corresponding to the at least one placeholder file; and

exchanging directory attribute data of the file record associated with the first root directory with directory attribute data associated with the second root directory.

59.   (Previously presented) The method according to claim 58, wherein

the associating step further comprises the step of reconfiguring the second

plurality of files to branch from the second root directory when the second root

directory is accessed through the first location.

60-62.   (Canceled).

63.   (Previously presented) The method according to claim 58, wherein

the associating step is performed without copying content of the first or second

plurality of files.

64.   (Previously presented) The method according to claim 58, wherein

the first and second sub-hierarchies are mutually exclusive.

65.   (Previously presented) The method according to claim 58, further

comprising the step of manipulating the at least one pointer of the HFS for

replacing selectable portions of data from the first sub-hierarchy with

corresponding data from the second sub-hierarchy.

66.   (Previously presented) The method according to claim 58, wherein

the HFS is a readable file system throughout the associating step.

67.   (Previously presented) The method according to claim 58, further

comprising the step of providing for first and second operating systems

associated with first and second sub-hierarchies respectively, the first and

second operating systems being executable on the at least one processor in the

respective first and second sub-hierarchies.

68.   (Previously presented) The method according to claim 58, wherein

the physical location of the first and second root directories is unchanged by and

after the associating step.

69.   (Previously presented) The method according to claim 58, the step

of allowing access by an operating system executed on the at least one

processor to at least one of the first and second sub-hierarchies when at least

one of the first and second sub-hierarchies is associated with the single

parentless root directory of the HFS.

70.   (Previously presented) The method according to claim 58, wherein

the HFS resides upon a single storage medium selected from the a group of

storage media consisting of physical and virtual storage media.

71.   (Previously presented) The method according to claim 70, wherein

the storage medium is a disk.

72. (Previously presented) The method according to claim 70, wherein the HFS resides on one of a single partition and a single volume of the medium.

73. (Previously presented) The method according to claim 58, wherein the second location is associated with a container directory branching from the root directory of the HFS.

74. (Previously presented) The method according to claim 58, wherein the content of the first sub-hierarchy includes an upgrade of content of the second sub-hierarchy.

75. (Canceled)

76. (Previously presented) The method according to claim 58, wherein the first and second sub-hierarchies provide different user environments.

77. (Previously presented) The method according to claim 58, wherein the first and second addresses of the first and second root directories are associated with first and second cluster numbers corresponding to the first and second root directories, respectively.

78.   (Previously presented) The method according to claim 58, wherein

the replacing is performed without altering one of an electrical and a physical

connection.

79.   (Canceled)

80.   (Currently amended) A computer system comprising:

     at least one processor;

     a hierarchical file system (HFS) stored on a storage medium accessible by

the at least one processor and including at least a first and second sub-hierarchy

sub-hierarchies and a single parentless root directory, wherein the HFS provides

a mapping between a disk sector and user data, further wherein the HFS

implementation is a New Technology File System (NTFS) implementation and

the HFS is provided with file records storing directory attribute data

corresponding with the first and second sub-hierarchies, and wherein:

     the first sub-hierarchy includes a first root directory located in a first

location of the HFS associated with the single parentless root directory of the

HFS through at least one internal pointer, wherein the first sub-hierarchy includes

a first plurality of files configured to branch from the first root directory and at

least one special system file which is exclusive to the parentless root directory;

and

     the second sub-hierarchy includes a second root directory located in a

second location of the HFS, wherein the second sub-hierarchy includes a second

plurality of files configured to branch from the second root directory and at least one placeholder file which corresponds to each of the special system files, further wherein the first and second root directories are each provided with at least one file entry, the respective file entries of the first and second root directories are provided with corresponding owning directories, and the respective owning directories are provided with corresponding back-pointers; and

a set of programmable instructions executable on the at least one processor for replacing the first sub-hierarchy with the second sub-hierarchy comprising the step of:

associating the second root directory and the single parentless root directory of the HFS through the at least one internal pointer, wherein the associating step further comprises the steps of:

configuring of the first plurality of files to branch from the first root directory including once the first root directory is accessed through the second location;

exchanging owning directories corresponding to the file entries of the first root directory with owning directories corresponding to the file entries of the second root directory;

exchanging the owning directory back-pointers of the first root directory with corresponding owning directory back-pointers of the second root directory;

exchanging at least one directory pointer corresponding to the at

least one special system file with at least one directory pointer

corresponding to the at least one placeholder file; and

exchanging directory attribute data of the file record associated with

the first root directory with directory attribute data associated with the

second root directory.

81. (Previously presented) The computer system according to claim

80, wherein the associating step is performed without copying content of the first

or second plurality of files.

82. (Previously presented) The computer system according to claim 80,

wherein the storage system is a single storage medium selected from the a

group of storage media consisting of physical and virtual storage media.

83. (Previously presented) The computer system according claim 82,

wherein the storage medium is a disk.

84. (Previously presented) The computer system according to claim 82,

wherein the HFS resides on one of a single partition and a single volume of the

storage medium.

85.   (Previously presented) The computer system according to claim 80,

wherein the associating step is performed without altering one of an electrical

and a physical connection associated with the storage medium.

86.   (Previously presented) The computer system according to claim 80,

wherein the second root directory branches below from the first root directory.

87.   (Previously presented) The computer system according to claim 86,

wherein the HFS is a readable file system throughout the associating step.

88.   (Previously presented) The computer system according to claim 80,

wherein the physical location of the first and second root directories is

unchanged by and after the associating step.

89-100. (Cancelled)

101-108. (cancelled)

Allowable Subject Matter

7.   Claims 58-59, 63-74, 76-78, and 80-88 are allowed. The following is the

statement of reasons for the indication of allowable subject matter.

As per claim 58, the prior art of record, alone or in combination, does not

teach or fairly suggest the combination of steps as recited in the claim. Hensley

(U.S. Patent Application Publication No. 2004/0133790) in view of Maurer III et

al., (U.S. Patent Application Publication Number 2003/0065780) does not teach

the following limitations:

"associating the second root directory and the single parentless

root directory of the HFS through the at least one internal pointer, wherein

the associating step further comprises the steps of:

configuring the first plurality of files to branch from the first

root directory once the first root directory is accessed through the

second location;

exchanging owning directories corresponding to the file

entries of the first root directory with owning directories

corresponding to the file entries of the second root directory;

exchanging owning directory back-pointers of the first root

directory with corresponding owning directory back-pointers of the

second root directory;

exchanging at least one directory pointer corresponding to

the at least one special system file with at least one directory

pointer corresponding to the at least one placeholder file; and

exchanging directory attribute data of file record associated

with the first root directory with directory attribute data associated

with the second root directory".

Therefore, claim 58 is allowable. The dependent claims of claim 58, being

definite, further limiting and fully enabled by the section are also allowable.

As per claim 80, the prior art of record, alone or in combination, does not

teach or fairly suggest the combination of steps as recited in the claim. Hensley

(U.S. Patent Application Publication No. 2004/0133790) in view of Maurer III et

al., (U.S. Patent Application Publication Number 2003/0065780) does not teach

the following limitations:

"associating the second root directory and the single parentless root

directory of the HFS through the at least one internal pointer, wherein the

associating step further comprises the steps of:

configuring the first plurality of files to branch from the first root

directory once the first root directory is accessed through the second

location;

exchanging owning directories corresponding to the file entries of

the first root directory with owning directories corresponding to the file

entries of the second root directory;

exchanging owning directory back-pointers of the first root directory

with corresponding owning directory back-pointers of the second root

directory;

exchanging at least one directory pointer corresponding to the at

least one special system file with at least one directory pointer

corresponding to the at least one placeholder file; and

exchanging directory attribute data of file record associated with the

first root directory with directory attribute data associated with the second

root directory".

Therefore, claim 80 is allowable. The dependent claims of claim 80, being

definite, further limiting and fully enabled by the section are also allowable.

Contact Information

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30AM-5:30PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-5629.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).
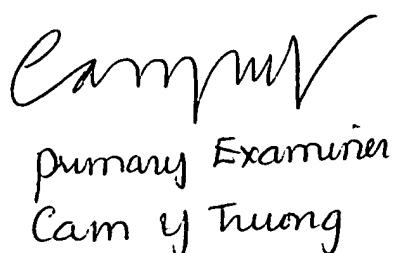
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